DOCUMENT RESUME

ED 263 322 CE 042 774

AUTHOR Bragg, Debra D.; Miller, Aaron J.
TITLE Teacher Retraining and Directed Exchange (T.R.A.D.E.): Pilot Project Documentation and Evaluation.
INSTITUTION Ohio State Univ., Columbus. Coll. of Education.
SPONS AGENCY Ohio State Dept. of Education, Columbus. Div. of Vocational Education.
PUB DATE Jun 85
NOTE 87p.
PUB TYPE Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC04 Plus Postage.
DESCRIPTORS Education Work Relationship; High Schools; Inservice Teacher Education; Postsecondary Education; *Program Effectiveness; *Program Implementation; *School Business Relationship; *Teacher Exchange Programs; Teacher Improvement; *Technological Advancement; *Vocational Schools; Work Experience Programs
IDENTIFIERS Ohio; Project TRADE

ABSTRACT

The Teacher Retraining and Directed Exchange (TRADE) project was conducted during the 1984-85 school year at five vocational schools in Ohio. During this period, a total of six teacher-employee exchanges were conducted with large and small businesses and industries. An evaluation of the project showed that, generally, the cost of implementing Project TRADE was low. Benefits were described by project participants for teachers, students, industry employees, and schools. Usually, these benefits were related to the attitudes, knowledge, and skills of employees, teachers, and students. The evaluation suggested that complete agreement by the business/industry (B/I) employee was necessary for success. The study also found that although some preservice teacher training was provided for B/I exchange employees, almost all indicated more preservice training time should be given. Teachers who participated in Project TRADE experienced a range of "hands-on" experiences and observations and learned about the latest technology used in their teaching areas. All of the teachers indicated after participating in TRADE that they were confident in their ability to teach about new technical equipment and processes. Recommendations were made for teacher selection, preservice education for exchange employees, selection of B/I employees, Ohio State Department of Education guidelines, goals clarification, information dissemination, and administration of the project. (KC)

**********
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
**********

ED263322

OH8513102

# TEACHER RETRAINING AND DIRECTED EXCHANGE (T.R.A.D.E.): PILOT PROJECT DOCUMENTATION AND EVALUATION

by

**Debra D. Bragg**
**Aaron J. Miller**

**Department of Educational Policy and Leadership**
**College of Education**
**The Ohio State University**
**Columbus, Ohio 43210**

**June, 1985**

CE042774

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

TABLE OF CONTENTS


Page No.

EXECUTIVE SUMMARY. . . . . .1

INTRODUCTION . . . . . .6

Background . . . . . .6

Purpose of the Evaluation. . . . . 10

Data Collection Procedures . . . . . 10

DESCRIPTION OF PROJECT TRADE PILOT SITES . . . . . 12

Pilot One: Licking County Joint Vocational School . . . . . 13

Pilot Two: Patterson Cooperative High School. . . . . 19

Pilot Three: Butler County Joint Vocational School District . . 24

Pilot Four: Coshocton County Joint Vocational School. . . . . 28

Pilot Five: Marion Correctional Institution . . . . . 32

CHARACTERISTICS OF THE PARTICIPANTS IN PROJECT TRADE . . . . . 33

Characteristics of Exchange Teachers and Employees . . . . . 34

Attitudes of Exchange Teachers and Employees . . . . . 41

Characteristics of Businesses and Industries . . . . . 48

THE IMPACT OF PROJECT TRADE . . . . . 48

Impact of TRADE on Teachers . . . . . 50

Impact of TRADE on Students . . . . . 51

Benefits of TRADE for B/I Exchange Employees. . . . . 52

Benefits of TRADE for B/I . . . . . 52

Benefits of TRADE for Schools . . . . . 53

Implementation Problems with Project TRADE. . . . . 53

SUMMARY AND CONCLUSIONS . . . . . 55

Project Summary . . . . . 55

Conclusions about Project TRADE . . . . . 57

APPENDIXES . . . . . .60

Appendix A: Interview Questions

Appendix B: Exchange Employee Profile

Appendix C: Exchange Employee Survey

Appendix D: Teacher Interview Schedule

Appendix E: Proposed Training Activity List

## EXECUTIVE SUMMARY

The Teacher Retraining and Directed Exchange Project TRADE was conducted during the 1984-85 school year in Coshocton County JVS, Butler County JVS, Dayton City Schools, Licking County JVS and Marion Correctional Institute. During this period a total of six teacher-employee exchanges were conducted with large and small businesses and industries in Ohio.

This project documented and evaluated the way Project TRADE was implemented in the pilot sites, changes which occurred as a result of Project TRADE, and presents the recommendations of project participants and the external evaluators. Generally, the cost of implementing Project TRADE was low. This was due, in part, to the fact that only two pilot sites were able to conduct two teacher-employee exchanges. The remaining pilot sites conducted, at most, one teacher-employee exchange due primarily to reluctance of business/industry (B/I) to participate in Project TRADE.

Benefits were described by project participants for teachers, students, B/I employees, B/I sites and schools. Usually these benefits were related to the attitudes, knowledge and skills of employees, teachers and students. Benefits such as increased job placement of graduates and curriculum change must be measured during the years to come. Since the pilot sites only completed their projects within the past two months, sufficient time has not elapsed to collect longitudinal impact data.

Generally speaking, businesses and industries (B/I) that participated in Project TRADE were highly involved with the local vocational education programs. Companies that have cooperated in various ways with schools appeared to be more interested in participating in the project than

companies that have not been involved with education. Furthermore, having unions in companies did not appear to prohibit participation in TRADE. However, the union's presence in participating companies did influence the nature of the exchange experience for exchange teachers. In businesses and industries where unions were present, the exchange teachers spent the majority of their time observing rather than receiving "hands-on" experiences.

The selection and training of the business/industry (B/I) exchange employees are vital components of PROJECT TRADE. Having the bona fide agreement of the B/I exchange employeee to participate is necessary for greatest success. When B/I employees had previously taught or worked with teenage youth, their exchange experience appeared to be more satisfactory. Even though some preservice teacher training was provided for B/I exchange employees, almost all indicated more preservice training time should be devoted to teaching, planning and maintaining student discipline.

Teachers who participated in Project TRADE experienced a range of "hands-on" experiences and observations, depending upon whether there were unions in the B/I exchange site. Typically, participation in Project TRADE did give teachers opportunities to learn about the latest technology used in their reaching areas. All of the teachers indicated after participating in TRADE that they were confident in their ability to teach about new technical equipment and processes. In general, teachers appeared to feel better about their own competence as a result of TRADE. Some teachers had incorporated aspects of TRADE experiences into their classroom instruction. Others, however, said the material would be too complex for students in their classes.

## Recommendations for the Future

While conducting the study, all of the participants in Project TRADE were asked to make recommendations to improve future project TRADE exchanges. These recommendations are listed in the following section of this report. Recommendations of the project evaluators follow the participant suggestions.

### Recommendations of TRADE Participants

1. Teachers who are selected to participate in TRADE should be the teachers who have taught for the longest period of time in the school. Teachers who have taught 15 to 20 years would make the best candidates for TRADE.

2. The preservice training and observation time for exchange employees should be extended. The local project directors indicated that a minimum of 20 hours of preservice teacher training should be provided. In addition, other participants suggested that exchange employees should observe their exchange teachers a minimum of two days. Throughout the preservice and observations, both teachers and employees should be compensated fairly. The pay should be approximately equivalent to their regular salary.

3. The selection of businesses and industries should be based on the needs of teachers who participate in TRADE. As a result, teachers should be selected first and then businesses and industries should be selected. Teachers should be involved in making the selection of businesses and industries. If teachers decided to participate in TRADE in a union B/I setting, then unions should be involved in the project from the beginning, along with management.

4. The B/I employee who is selected should exhibit as many of the following characteristics as possible: outgoing, patient, well-organized, understanding, responsible, mature, experienced, authoritative, self-confidence and leadership. Having taught or worked with youth previously would be helpful for B/I employees.

5. The B/I employee should be supervised closely during the exchange. Supervisory personnel in schools must observe B/I

employees and offer suggestions about teaching. The instructional supervisor should give the B/I employee feedback on their performance as a teacher and laboratory/shop instructor.

6. The task activity list developed by the exchange teacher needs to allow for the identification of their project goals. In addition, objectives that can be met through "hands-on" experiences and observations should be identified on the task activity list. The task activity list should be developed cooperatively by teachers and exchange employees. However, these lists should be able to be ammended as necessary after the teacher exchange takes place.

7. The teacher-employee exchange should be conducted at times of the year that best suit the teachers curriculum. Therefore, planning of teacher-employee exchanges must begin early in the year so that the optimum exchange times may be selected.

8. If a goal of teacher-employee exchange is to modify or update the school's curriculum, then teachers need to have expert assistance in this matter (e.g. supervisors, teacher educators). Some teachers, especially those employed in large districts, may want to revise their curriculum but do not have the authority to make curriculum changes. In those instances, the data from Project TRADE may be used in the process of revising the curriculum for a group of teachers.

9. The State Department of Education should develop guidelines for ways to conduct Project TRADE, including ways to attract participating businesses and industries, and ways to conduct preservice teacher education. The State Department should give the project more statewide exposure and publicity.

10. The guidelines for Project TRADE should be changed to include more options for the way the project can be conducted. For example, the guidelines should allow teachers the opportunity to observe and work in B/I settings without exchanging places with B/I employees and allow teachers follow-up experiences of shorter duration as technology continues to change in the future.

Recommendations of the Project Evaluators

1. In order for the success of Project TRADE to be optimum, the goals of all of the participants in the project must be clarified. More specifically, local project directors, teachers and any other school administrators involved in TRADE need to clarify in the beginning what their goals are for the project. A wide range of goals may be determined for Project TRADE such as teacher update, curriculum development and linkage with B/I. Yet, many of the potential benefits of TRADE may not be realized if, at the conclusion of the teacher-employee exchanges, teachers are planning to informally share experiences with students while local project directors expect formal changes in the course of study.

2. One aspect of the project which has not been fully examined is how information from TRADE will be used by teachers and how that use will benefit vocational education programs. Early findings appear to suggest that uses, and consequently benefits, may bary widely. Teachers were asked during follow-up telephone interviews whether they planned to develop lesson plans and change their courses of study following TRADE. Half of the teachers said that they planned to change their courses of study and others said they did not. Some of the teachers who did not plan to make changes said that they needed assistance from teacher education, supervisors, State Department of Education or others to change their course of study. In order to assure change following implementation of TRADE, additional support services may be needed. For example, there may be a need to offer college credit for teachers to change the course of study or supplemental pay for the hours teachers spend revising their curriculum. Alternatives such as these need to be investigated in the future.

3. During the past school year, the administration of Project TRADE has been primarily at the local level, with monitoring of the projects performed by State Department of Education personnel. By and large, this cooperative arrangement appeared to work well. It is recommended that such a cooperative arrangement continue, in some form, if Project TRADE is to be conducted statewide. Also it is recommended that the State Department of Education continue some minimum level of funding as well as training for local project directors.

4. As more schools request participation in Project TRADE and local schools attempt to obtain support from B/I, the networking which the State Department of Education could do among local projects could be vital to the success of some projects. For example, when large industries such as General Motors are involved in Project TRADE, those successes may stimulate new interest in vocational education in the community and State. However, a widely publicized failure involving a large, well-known company may have the opposite effect. In order to assure that these failures do not occur, the State can provide vital communication, linking and support services.

## INTRODUCTION

In recent years, advancements in technology have occurred at a rapid pace. Some of the most visible technological changes have occurred in the areas of manufacturing, health care, information processing, and telecommunications. New technological innovations in computers and an increased use of robotics and lasers have revolutionized the ways many businesses and industries have operated. Advancements in these types of technology have occurred so rapidly that many vocational education teachers have found it difficult to stay abreast of the changes. However, excellence in vocational education can only be achieved through programs that are current with labor market needs and taught by competent instructors. The goal of this evaluation was to describe a project which was designed to improve and maintain the technical competencies of vocational education teachers. This project was titled the Teacher Retraining and Directed Exchange (TRADE).

### Background

Vocational education plays an important role in preparing Ohio's youth and adults for a wide range of jobs. In order for vocational graduates to perform successfully on the job, they must have acquired current knowledge and skills through vocational education preparation. Clearly, vocational graduates must be prepared to perform jobs which utilize current technology in order to be competitive in the labor market. However, in order for vocational graduates to gain knowledge and skills regarding new, and often complex technology, vocational graduates must have acquired knowledge about

technology and practiced using technology during their vocational education preparation.

There are a number of problems which have hindered the preparation of vocational graduates for jobs which have required using current technology. One of the more critical problems is the cost of purchasing extremely expensive technical equipment for vocational education laboratories. A second problem is that technology is advancing so rapidly that today's finest technological equipment may be out-of-date in a relatively short time period. Many vocational education programs have not had the financial resources to maintain each generation of technical laboratory equipment.

Finally, some vocational teachers, who have taught vocational education for many years, do not have the competencies to utilize new technical equipment or teach new technological processes.

The Teacher Retraining and Directed Exchange (TRADE) project was developed to address the last problem directly, and the other problems indirectly. Project TRADE was an innovative pilot project conducted in Ohio vocational programs in five school districts; Coshocton County Joint Vocational School, Butler County Joint Vocational School District, Dayton City School District, Licking County Joint Vocational School, and the Marion Correctional Institute. Briefly, this project involved the technical updating of vocational teachers by exchanging personnel with local businesses and industries (B/I). While the exchange was operating, salary and benefits continued to be paid by the regular employer. Through a formal agreement between each school and B/I, existing B/I resources and personnel were accessed to update the technical knowledge and skills of vocational teachers.

Project TRADE began during the 1983-1984 school year at the Coshocton County Joint Vocational School (JVS) under the leadership of Brenda Hollensen. Two teacher-employee exchanges were successfully conducted during the 1983-84 school year. These teacher-employee exchanges provided the model for the teacher-employee exchanges piloted during the 1984-1985 school year. Due to her previous leadership of Project TRADE in Coshocton County and interest in the project, Brenda Hollensen was designated state project director for the five pilot sites across the state.

Guidelines for the local pilot sites to establish teacher-employee exchanges were as follows.

(1) Teachers who were selected must have taught at least four or five years and not anticipate retirement in the immediate future

(2) Currently employed B/I employees must exchange positions with the exchange teachers.

(3) Teacher-employee exchanges must last for a 6 to 12 week duration.

(4) Two teacher-employee exchanges must be conducted during the 1984-1985 school year.

(5) Preservice training for the B/I employee and exchange teacher must be conducted.

(6) Pilot sites must involve an approved university teacher education unit in the in-service preparation program for the exchange teachers.

(7) Pilot sites must maintain data for evaluation of the project.

(8) Project directors must attend meetings to coordinate the project.

These guidelines were established to minimize some of the differences among pilot sites with respect to the teacher-employee exchanges.

Three meetings were held with representatives of each Project TRADE pilot site between April, 1984 and May, 1985. An overview of Project TRADE

and the guidelines for participating as a pilot site were presented at an April, 1984 meeting at the Coshocton J.V.S.

In June, 1984, project guidelines were discussed and approved. These guidelines related to obtaining school board approval, obtaining funding, selecting teachers, selecting the B/I, involving universities, collecting data and evaluating the programs. In addition, each local project director discussed plans for Project TRADE in their own school setting.

In May 1985, a meeting was held to follow-up the experiences which local project directors had with Project TRADE during the 1984-1985 school year. Each local project director indicated whether or not they complied with the project guidelines. In most cases, the project guidelines were followed closely by local project directors. However, two pilot sites conducted one rather than two teacher-employee exchanges, and one pilot site had not conducted an exchange.

At the Coshocton County JVS, the local project director indicated that only one teacher was eligible and willing to participate in the project. Thus, only one teacher-employee exchange was conducted. At Butler County JVS, only one B/I was identified that was interested in participating in Project TRADE based on the present project guidelines. This local project director indicated that if the project guidelines for the teacher-employee exchange had been more flexible, more businesses or industries might have been interested in participating.

Finally, the Marion Correctional Institute did not conduct a teacher-employee exchange since no businesses or industries had agreed to participate in the project during the 1984-1985 school year. However, the local project director at Marion indicated a teacher-employee exchange might

be conducted in the future if one previously contacted B/I agreed to participate.

In addition, at the May 1985 meeting, recommendations to improve Project TRADE were made by the local project directors. Each local project director estimated the cost of Project TRADE in their school setting and roughly itemized expenses. Also, the local project directors listened to a brief summary of some of the evaluation findings and provided feedback regarding the accuracy of these findings.

## Purpose of the Evaluation

An evaluation plan was developed and submitted to the Division of Vocational Education, Ohio Department of Education on May 4, 1984 by The Ohio State University. The evaluation goals presented in that evaluation plan were fourfold. The goals were:

(1) to describe implementation of Project TRADE during the 1984-1985 school year in the five pilot sites,

(2) to develop recommendations to improve Project TRADE for implementation in other schools in Ohio,

(3) to determine the cost feasibility of extending Project TRADE to more schools in Ohio,

(4) to identify changes which have occurred as a result of Project TRADE in vocational education programs.

## Data Collection Procedures

The timeline for the evaluation was the 1984-1985 school year. However, most of the data were collected between January and May of 1985 since all of the exchanges were conducted during that time period. Data were collected in

a number of ways. The primary data collection procedures were; (1) telephone interviews with local project director, (2) mail surveys ompleted by exchange employees and exchange teachers, (3) visits to each school and participating business or industry involved in each pilot project, (4) telephone interviews with the exchange teacher, and (5) documentation of the project using existing records maintained by local project directors.

## DESCRIPTION OF PROJECT TRADE PILOT SITES

Each of the vocational education programs which conducted a teacher-employee exchange was visited once during the 1984-1985 school year. The five pilot sites were:

Pilot One: Licking County Joint Vocational School, Owens Corning Inc. and Licking Memorial Hospital, Newark, Ohio.

Pilot Two: Patterson Cooperative High School and Delco-Moraine, Dayton, Ohio.

Pilot Three: Butler County Joint Vocational School and Mosler Inc., Hamilton, Ohio.

Pilot Four: Coshocton County Joint Vocational School, Coshocton, Ohio and One Better Beauty Salon, West Lafayette, Ohio.

Pilot Five: Marion Correctional Institute, Marion, Ohio

During the visits to these pilot sites, interviews were conducted with the local project director, exchange teacher(s), B/I representative and exchange employee(s). These interviews were conducted in the schools and the participating businesses and industries. The primary purpose of the visit to each pilot site was threefold; to obtain information from various participants to describe implementation of Project TRADE, to document recommendations to improve the Project TRADE and to identify changes which occurred as a result of Project TRADE.

Prior to visiting the pilot sites, interview schedules were developed. These interview questions provided structure for the personal interviews. However, additional questions were asked when more information was needed. The interview schedules are contained in Appendix A.

## Pilot One: Licking County Joint Vocational School

The Licking County JVS, like many other joint vocational schools in Ohio, is modern, spacious, functional and well-maintained. A tour of the Licking County JVS makes even the most casual observer aware of the pride teachers and students have taken in the facility, and the support the public has given to the vocational education program in Licking County.

The Licking County JVS is not only offering vocational education courses at the secondary level but offering courses for adults as well. The adult vocational education program in Licking County appears to be large and drawing adults with a wide range of needs and interests. Due in part to a contact made by Bob Savage, the machine trades teacher at the Licking County JVS, with Don Clark an Owens Corning manager who was participating in an adult class, one of the teacher-employee exchanges was arranged.

One of the reasons Owens Corning was eager to participate in Project TRADE was because a large number of Owens Corning employees had participated in secondary or adult vocational education at the Licking County JVS. Don Clark estimated that at least 73 percent of the skilled employees at Owens Corning had completed courses at the Licking County JVS. In addition, managers of Owens Corning had shown their support for Licking County JVS programs by serving as advisory committee members for the machine trades program.

The Licking County JVS was not only successfully providing training for the employed adult labor force in the vicinity but placing secondary graduates into job-related occupations in the Licking County area, as well. One secondary graduate of the nurse aid program , Drema Reaser, who had

obtained a license in practical nursing after graduating from Licking County JVS, became the exchange employee for another teacher-employee exchange. Since Drema was working as a licensed practical nurse at the Licking Memorial Hospital, the hospital was secured for this second teacher-employee exchange. A second purpose for choosing Licking Memorial Hospital for a B/I exchange site was that a member of the hospital professional nursing staff was serving on the Licking County JVS nurse aid program advisory committee and keenly interested in Project TRADE.

Implementation of TRADE in Licking County

During the spring of 1984, Bill Bussey, Agriculture and T&I supervisor at Licking County JVS, was asked to be the local project director of TRADE. Bill took the responsibility for selecting two exchange teachers. He further identified two businesses and worked with these B/I managers to administer the exchange and select exchange employees and supervise the preservice and the inservice training.

Selection of teachers to participate in TRADE at Licking County occurred early in the 1984-1985 school year. A letter was sent to all teachers in the JVS requesting their participation in TRADE. Only two teachers completed applications to participate in TRADE. These were the two teachers who were selected to participate. One of the exchange teachers indicated that most teachers in the JVS were cautious about TRADE and tried to discourage teachers from participating in TRADE. However, Bill Bussey indicated that both teachers who applied were independent thinkers and excellent candidates for TRADE. The JVS was pleased with the interest of these teachers in the project.

Owens Corning and Licking Memorial Hospital seemed to be very appropriate choices to participate in TRADE in Newark. Both of these employees were large and well-respected employees in the Licking County area. Owens Corning employed about 2,400 skilled workers in the fiberglass production plant. Licking Memorial Hospital employed 950 staff and about 450 nurses. Due, in part, to the size of these employers, the decision to participate in TRADE required some time. The decision by Owens Corning to participate in TRADE was made by top company executives. Preparation and presentation of information to top executives, as well as the decision to participate on the project, was time consuming.

The exchange of Karen Gill, the JVS nurse aid teacher, to Licking Memorial Hospital was complicated since Karen was not a licensed nurse. Based on this fact, the hospital refused to participate in a one-for-one exchange. As a result, the JVS contacted Drema Reaser who was employed by Licking Memorial Hospital as a licensed practical nurse. Drema decided to participate as an exchange employee while maintaining her full-time job at the hospital. With this arrangement, the hospital did not take responsibility for Drema while the TRADE was operating. Thus, there was not an exchange of services between the exchange employee and exchange teacher as occurred between exchange teachers and employees in other pilot sites. In contrast, Drema was paid as a substitute teacher when teaching for one-half day at the JVS. In addition, Karen Gill continued supervising students at cooperative work stations in the area while participating in TRADE.

Owens Corning had several reasons for selecting Steve Savage as the exchange employee for TRADE. Steve had taught apprentice machine shop classes at Licking County JVS. In addition, Owens Corning was in the

process of improving and expanding internal training programs. Owens Corning managers recognized Steve's potential to provide internal training in the future. Finally, Steve had proven to be an ambitious employee who was pursuing an associate degree in mechanical engineering technology at the OSU-Newark Campus. Owens Corning managers were candid about the potential Steve had for advancing in the company. Even though Steve was selected by Owens Corning management without his input, Steve agreed to participate. Steve indicated that he felt the company gave him little choice but that he felt the teaching experience would help him advance in the company.

Twenty hours of preservice training was conducted for Drema Reaser and Steve Weaver prior to the beginning of each exchange. Besides Bill Bussey, the exchange teachers from the JVS played a large role in preparing the exchange employees to begin teaching. During this time period, school policies were explained to the exchange employees. However, most of the 20 hours of preservice time was allocated to preparing Drema and Steve to teach classes in their respective vocational service areas. Some time was devoted to developing the training activity list that Karen Gill and Bob Savage used to direct their exchange experiences while in the B/I sites. Steve commented that the amount of time for the preservice was "about right." Throughout the six week exchanges, the exchange teachers and employees remained in close contact. At least one meeting was conducted weekly. In addition, prior to beginning the exchanges, the exchange employees observed the exchange teachers instructing in their classrooms for one day.

Steve Weaver's comments about teaching were fairly positive, however Steve indicated the difficulty he had disciplining students and planning instruction. Steve indicated that he was very nervous about teaching before the exchange began. He said, "I was nervous that I wouldn't be prepared the

first few days." However, he indicated that the preservice helped him to be less nervous. Steve indicated that some of the students were difficult to deal with and he felt uncomfortable with some of the school discipline policies. However, he thought the students had learned a lot from his work experiences. Finally, even though teaching was more difficult and time consuming than Steve thought, he indicated that he would participate in the project again if asked. Steve appeared to be a very caring individual and one who took teaching responsibilities very seriously during the exchange.

Similarly, Drema Reaser indicated she was concerned about doing a good job when teaching. Drema indicated that she may be interested in teaching as a career at some time in the future. She said she appreciated having a chance to pursue an interest in teaching and to see if she would like to be a teacher. Drema said that even though she had to re-learn fundamental material when teaching, she had benefitted from the TRADE experience. Drema had worked with Karen Gill to prepare lessons which focused upon Drema's strong work skills. Drema emphasized that she could share with students practices that make working as a nurse aid both more pleasant and efficient. Drema was very positive about TRADE and indicated she would be very willing to participate again.

Since Steve Weaver was regularly employed as a supervisor at Owens Corning, Bob Savage assumed Steve's supervisory responsibilities. However, because the unions at Owens Corning were not fully cooperative, Bob was not allowed to get "hands-on" experience working with machinery during the exchange. Yet, as the exchange proceeded, Bob was able to increasingly work with machinery without complaint from the unions. Still, the majority of Bob's time was spent supervising and observing, and not actually working with machinery. The focus of Bob's exchange experience was on Computerized

Numerical Control (CNC) equipment and Numerical Control (NC) equipment. In addition, Owens Corning received assistance from Bob in reviewing internal training materials which were being developed. Owens Corning managers indicated the need for flexibility in the exchange experience so that the most benefit could be gained by the exchange teacher and B/I.

During the exchange of Karen Gill at Licking Memorial Hospital, the fact that Karen was not licensed limited her "hands-on" experiences with patients. Karen's exchange experience involved rotation around the hospital to observe the interrelationship among departments and to observe the vast array of health care services provided by the hospital. Again, even though areas that Karen needed to observe were identified through the training activity list prior to the start of the exchange, the training activities were modified to meet the needs of Karen as the exchange proceeded. Mary Alice Swank, administrator of nursing at Licking Memorial Hospital, indicated the importance of the training activity list. Some of the more meaningful experiences Karen had during TRADE included learning about the Clinitron bed, the IVACS electronic thermometer, the Hickman catheter and experiments to treat diabetes.

Due to the fact that Drema Reaser and Karen Gill did not participate in a complete exchange of services, Project TRADE was more costly in Licking County than some of the other pilot sites. Throughout the exchange, Drema was paid as a substitute teacher one-half day for a six week period. An additional expense of the project was payment of teachers and employees for the time spent during preservice. Bill Bussey estimated that most of the Title II funds obtained for TRADE were expended. Bill estimated the exchange with Licking Memorial Hospital cost about $930, while the exchange with Owens Corning cost about $320. Of course, much of time and work of

Bill Bussey was not reimbursed by the project but paid by Bill's regular JVS salary.

## Pilot Two: Patterson Cooperative High School

Patterson Cooperative High School (Patterson Coop) is a large high school located in downtown Dayton. The school has been operating in Dayton City Schools for over 70 years and placing students in cooperative work stations during most of that time period. Jim Frasier, director of vocational education for Dayton City schools, acted as the Project TRADE local director in Dayton with assistance from Bill Daniels, T&I supervisor. Jim indicated there were many schools in the Dayton City Schools which could have been chosen to participate in TRADE; however, there was little doubt in Jim's mind that Patterson Coop would be the best choice.

Patterson Coop was chosen for several reasons. One reason was the interest and enthusiasm of Nelson Whiteman, principal of Patterson Coop in special projects such as TRADE. Secondly, Patterson Coop had worked closely with Delco-Moraine in Dayton for at least 20 years placing students and graduates into occupations. Recently, Patterson Coop had established a formal Industry Education Partnership agreement with Delco-Moraine. Thus, the groundwork to conduct Project TRADE with Delco-Moraine had been laid. Third, a Delco-Moraine manager, Paul Allison, had participated on a Patterson Coop advisory committee and was very enthusiastic about TRADE. Finally, Patterson Coop had a record for providing high quality vocational education in an urban setting.

Implementation of TRADE In Dayton

Patterson Coop teachers were asked by Nelson Whiteman to volunteer their participation in Project TRADE. One teacher who did volunteer for the project was Sally Kepple, a business teacher. Sally was interested in updating her skills in an office setting. Mr. Whiteman and Jim Frasier were enthusiastic about Sally participating in TRADE because she was a competent and experienced teacher. The other teacher who participated in TRADE was Dave Scheidt. Dave was the machine trades instructor at Patterson Coop. Even though Dave did not volunteer to participate, when selected he agreed to participate in the project. Dave was to be flattered by his selection by Bill Daniels for TRADE.

The employees of Delco-Moraine who were selected for TRADE were selected by management. Beverly Carson was a product engineering secretary at Delco-Moraine and Bill Bovard was a machinist. Both employees indicated they had no knowledge about TRADE until they were asked to participate. Beverly was flattered by her selection and excited from the very beginning. Bill said that he agreed to participate in the project only after he visited Patterson Coop. He said the visit helped him decide to participate in TRADE. In both cases, these employees exchanged positions with the teachers on a one-for-one basis.

The preservice teacher education for the B/I exchange teachers which was conducted in Dayton took place for a total of six hours over three consecutive days after school. In addition, one day of observation was scheduled for Dave Scheidt and Bill Bovard, and one and one-half days observation was scheduled for Sally Kepple and Beverly Carson. Both Bill Bovard and Beverly Carson indicated the preservice teacher training was

helpful but felt more time should be spent in preservice preparation in the future. Both exchange employees indicated they had problems disciplining students in the classroom and would have appreciated more time discussing possible teaching practices as well as more time observing the exchange teacher in the classroom.

Beverly Carson had limited familiarity with the business education program before starting to teach. In 1966 she graduated from that same Patterson Coop High School. While at Patterson Coop, she taught beginning and advanced typing for sophomores and three classes in introductory business; clearly a full teaching load. Beverly explained she had to study a great deal during the exchange because she had forgotten many of the basic typing rules. She said, "At first, I was obsessed with this (teaching)... the mental and emotional reward was great." She added "I've gained a tremendous respect for teachers." Beverly indicated that if asked to participate in TRADE again, she would participate. However, she indicated that she would need the "proper training" before beginning to teach again. When asked whether she would recommend participation in TRADE to other employees at Delco-Moraine, Beverly indicated that "it would depend on the person". She explained that being a teacher required a special type of person; especially a person who is prepared every day.

Bill Bovard the B/I exchange teacher in machine trades at Patterson Coop was not quite as positive as Beverly Carson about his exchange experience. as Beverly Carson. Bill indicated that he had great difficulty disciplining students. He recommended that in the future, B/I exchange employees observe the exchange teacher for at least one week prior to beginning the exchange. However, Bill said the Patterson Coop administration gave him 100 percent support. He explained that Nelson Whiteman, principal of the school, had

removed four unruly students from his classroom. These students were removed early in the six week exchange period and were kept out of the machine trades classroom until the regular exchange teacher returned to the classroom. Bill indicated that once these four students were removed from class, he felt more positive toward his exchange experience. Bill indicated he was pleased that he could help Dave Scheidt, the exchange teacher, update his skills at Delco-Moraine. Bill indicated as well, that he was enthusiastic about sharing his work experiences with students and providing students with a better idea of what they'd be facing on the job in the future. When asked whether he would participate in Project TRADE again, his response indicated some reluctance.

Just as Beverly Carson felt overwhelmed by teaching when beginning the exchange, Sally Kepple also felt overwhelmed with her secretarial duties when beginning the exchange at Delco-Moraine. The product engineering secretary had responsibility for working with 26 employees, primarily engineers, at Delco-Moraine. The workload was large and Sally found the job hectic at first. Sally indicated that two full days should have been provided to observe Beverly Carson on the job prior to the start of the exchange instead of one and one-half days. However, once Sally began to learn the secretarial job, she described her exchange experience as "refreshing". Besides learning the general office procedures at Delco-Moraine, Sally had learned to use the IBM word processor, electronic mail and electronic filing systems. Sally recommended that six weeks be a minimum for TRADE because she said that by the end of six weeks she was just beginning to feel comfortable on the job. In addition, Sally stressed the importance of completing the training activity list. She explained that exchange teachers couldn't know all the options available for exchange

experiences until after they had been on the job at least one week. Sally highly recommended TRADE for other vocational education teachers in Ohio.

Dave Scheidt the Patterson Coop machine trades teacher who exchanged positions with Bill Bovard, explained that he felt very comfortable going to Delco-Moraine for the exchange. During the exchange, he observed the operation of CNC equipment but did not work in a production job due to union restrictions. However, indicated he felt comfortable observing because it takes years to learn to run CNC machines. While Dave was working at Delco-Moraine he still maintained all of the grading for his Patterson Coop machine trades class. He said he felt somewhat burdened by the extra workload. However, in a final assessment of TRADE, he seemed satisfied with his experience and recommended the project to other teachers in Ohio.

Jim Frasier, local project director, was cautious about publicizing TRADE until after he knew everything was working smoothly. However, after about two weeks the project was reported by the Dayton Daily News; the Downtowner, a newspaper circulated in downtown Dayton; and a local TV station. One of the participants in the exchange indicated that management at Delco-Moraine was extremely pleased with the media attention the company had received due to the project. This individual explained, "This is the kind of thing companies pay big bucks for and now we're getting it (media coverage) free." Jim Frasier estimated that the total cost of the project to the Dayton Public Schools was less than $400. The major expenses were for the preservice training of the teachers, two days of substitute teaching and travel. He indicated that TRADE as a real bargain and was more than pleased with the return on Dayton City Schools' investment in the project.

## Pilot Three: Butler County Joint Vocational School District

The Butler County Joint Vocational School District is located near Hamilton, Ohio. Joan Bruno, local project director, at Butler County J.V.S. explained that a project such as TRADE is not unusual at the JVS. She explained that the school frequently conducts innovative projects largely because of the enthusiasm of the local superintendent. Therefore, the project was expected to run smoothly for that reason. However, Joan explained that early in the 1984-1985 school year she had difficulty finding a B/I to participate in the teacher-employee exchange.

Due to the fact that the economy was slow in southwest Ohio, many businesses and industries had reportedly laid-off staff and others were operating with a minimum number of employees. Therefore, when these companies were approached to participate in Project TRADE, there was not a great deal of interest. However, finally Mosler, Inc. was contacted and agreed to participate in Project TRADE.

Mosler, Inc., located in Hamilton, Ohio, is a large manufacturer of safes and bank vaults. Mosler is a division of American Standard which employs approximately 50,000 individuals all over the world. At Hamilton, Ohio however, about 5,000 persons are employed. Some of the latest technology is used in manufacturing at Mosler including use of CNC equipment and robots.

The contact between Butler County JVS and Mosler, Inc. was initiated through a placement director at the JVS. Joan Bruno explained that she was beginning to think that the JVS would not find a B/I to participate in TRADE when the placement director suggested she contact Mosler. Once Joan contacted Mosler, the teacher-employee exchange was set-up very quickly.

One Mosler manager, John Smith, indicated the company had several reasons for participating. First, Mr. Smith indicated that Mosler had recently begun to think about ways to strengthen ties with secondary vocational education. Mr. Smith said that company managers thought secondary vocational education graduates, with all-around basic skills, would make good employees in the future. Even though Mosler had not worked closely with the Butler County JVS in the past, the management was enthusiastic about working cooperatively to train or update adults at the JVS facility in the future.

Second, Mosler, like Owens Corning in Newark,Ohio wanted to expand its internal training functions. The company saw their exchange employee, Tom Fredericks, as playing a role in training in the future and able to benefit from teaching at the JVS. In turn Rex Hannahs, the exchange teacher from the J.V.S., could offer suggestions about ways the internal training might operate.

Implementation of TRADE in Butler County

The local project director, Joan Bruno, was extremely careful about selecting teachers to participate in Project TRADE. She first developed selection criteria and then sent out applications to all teachers in the JVS. Three teachers applied for Project TRADE and one teacher was selected. Unfortunately, an exchange could not be arranged for this teacher because a B/I could not be located to participate in the exchange.

Joan next approached Rex Hannahs about participating in the project. There were several reasons Joan wanted Rex to participate in TRADE. Joan explained that Rex had taught several years but was not close to retirement and that Rex had a good course of study, good classroom management and was teaching in an area with rapid technological advancement.

Selecting the B/I to cooperate for this exchange was more difficult than expected. Unlike exchanges conducted at other pilot sites, the advisory committee was asked to identify appropriate B/I sites for TRADE exchanges but the committee did not make suggestions. Rather, Rex had an interest in three large heavy industry manufacturers in the area. Since Mosler was one of those companies, eventually an agreement was reached to conduct TRADE with Mosler.

The exchange employee was selected by Mosler management to participate in TRADE. Again, as occurred with other exchanges in the state, Tom Fredericks did not know how or why he was selected to participate in TRADE. However, John Smith provided some ideas about why Mosler selected Tom. Mr. Smith indicated that by selecting Tom, the company was putting their "best foot forward." In other words, Tom was a highly valued employee at Mosler and would present a good image for the company. In addition, since Tom was a supervisor at Mosler and had established good rapport with company managers, there was a feeling that Tom would provide valuable feedback about Butler County JVS. Finally, Tom had been identified by Mosler management as a person who would become more involved with internal training in the future. Mr. Smith said, "Tom could learn about training while teaching."

The preservice teacher training conducted by Joan Bruno at the JVS was extensive. The preservice training was 24 hours in length in addition to two days in which Tom Federicks observed Rex Hannahs teaching in the machine trades classroom. The focus for the 24 hours of preservice was school policy, special services, discipline, and teaching styles and techniques. Joan planned the preservice so that Tom rotated among the various school administrators and support staff to get information. After the exchange was

underway, Tom and Rex met at least once per week but usually more frequently, to talk about the exchange.

Even though Tom Fredericks was not very familiar with the Butler County JVS or vocational education programs prior to the exchange, he appeared to be very comfortable in the machine trades classroom. Tom said that he felt confident he had handled the students well and that he had contributed to the learning of students. Joan indicated that Tom had adapted quickly to planning and teaching. She said, Tom has done a "beautiful job". Unlike a few of the other exchange employees in pilot sites, Tom seemed to be comfortable disciplining students. He indicated that having a teenage son and working as a scout master for three years may have influenced his ability to handle students. Several times Tom said he was surprised how difficult and time consuming teaching had been for him. He estimated that he had averaged three hours per day, five days per week studying and preparing to teach during the exchange. He said he spent much of that time reviewing math principles. Even though the exchange had been a great deal of work for Tom, he said he supported the project and would participate again in the future if asked.

Rex Hannahs, like Tom Fredericks, appeared comfortable in his exchange position at Mosler. Co-workers of Rex at Mosler praised the contributions he made to the company during Project TRADE. Clearly, Mosler managers looked upon the exchange as an opportunity to learn from Rex Hannahs. However, since Mosler was unionized, Rex was not permitted to get much "hands-on" experience working with equipment. Instead, Rex observed the operation of CNC equipment, NC equipment, and robots, in addition to the supervision of workers. John Smith, Mosler administrator, indicated the need for flexibility during the exchange, saying "we didn't want to tie Rex

down." For that reason, both John Smith and Rex Hannahs talked about the need to modify the task activity list to incorporate observations as well as activities.

In conclusion, Joan Bruno and other participants in TRADE in Butler County became advocates for the project. However, Joan reiterated that mid-year when she could not find a B/I to participate, she had not felt positive about the project. Due to the difficulty of finding a B/I to participate in TRADE, Joan was interested in changing some of the guidelines for conducting the project. For example, Joan suggested a one-way experience in B/I for teachers and one-half day teacher-employee exchanges. As conducted, the project in Butler County, cost about $100.

## Pilot Four: Coshocton County Joint Vocational School

The Coshocton County JVS is a modern and functional facility in a rural setting near Coshocton, Ohio. This JVS was the site where Project TRADE originated during the 1983-1984 school year. However, one major change occurred by 1984-1985. Brenda Hollensen the original Project TRADE director, had moved to the Butler County JVS District leaving the local direction of Project TRADE to Donna Johnson.

Even though the teacher-employee exchanges had been successful during the 1983-1984 school year, some of the teachers in Coshocton County were reluctant to participate the next year. In addition, since this rural JVS had a small teaching and support staff of 22, many of the staff were not eligible for the project because of too little teaching experience or approaching retirement.

Earlier in the school year Donna had attempted to without success to arrange exchanges with several employers in the Coshocton vicinity. Because of the lagging economy in the area, many companies and their employees did not want to risk possible loss of production and employment by participating in Project TRADE.

Finally, however, Donna Johnson said she persuaded the cosmotology instructor, Ellen McKee, to participate in TRADE. Ellen was very candid about her decision to participate in TRADE. She said, "I did it as a favor to Donna." Yet, once Ellen was back in the B/I setting, she was very enthusiastic about TRADE.

Implementation of Trade in Coshocton County

Once Ellen McKee agreed to participate, she suggested advisory committee members as possible participants in TRADE. As a result, One Better Beauty Salon owned by Judy Gray became the B/I for this teacher-employee exchange. The beauty shop was quite small, employing five persons and the owner. The shop was located in the small town of West Lafayette about seven miles from the JVS.

As in other pilot sites, the exchange employee, Lisa Bebout was selected by the owner of One Better Beauty Salon to be an exchange employee without Lisa's input. However, when selected, Lisa was enthusiastic about the project and eager to participate. Lisa graduated from the cosmotology program at the Coshocton County JVS only a few years earlier so she was quite familiar with the program. In addition, Lisa was eager to test her teaching skills.

The teacher-employee exchange was conducted for about a six-week period. In contrast to the way most of the other exchanges were conducted, each Friday, Lisa Bebout returned to her regular job at One Better Beauty

Salon and Ellen McKee returned to teaching. Donna Johnson indicated that this arrangement reduced the chance of problems arising during the exchange and gave greater continuity to the education of students. The students who participated in the cosmotology program were seniors nearing completion of their course of study and about to take their licensure exams.

A preservice training session was conducted for Lisa Bebout on the Sunday prior to the beginning of the exchange. The preservice was conducted for a period of eight hours by Donna Johnson and Ellen McKee. In retrospect, all those who participated in the preservice training indicated the marathon eight hour session was not as beneficial to Lisa as shorter sessions over consecutive days would have been. Donna Johnson indicated that Lisa probably would have benefitted from having time to review school policies and teaching techniques independently over a period of a few days rather than during one long day. Then, Lisa could have met with Ellen McKee and Donna to discuss concerns or problems. In addition, Lisa indicated that she felt the need to observe Ellen McKee for three to five days prior to beginning the exchange. Lisa indicated that it would be beneficial to schedule observations at various times of the day if full-day observations could not be arranged.

Lisa Bebout was maintaining an extremely busy schedule when acting as an exchange employee for Project TRADE. While teaching at the JVS, Lisa was working several nights a week as a dishwasher. Lisa explained that she only had a few nights each week and the weekend to prepare for teaching at the JVS. She said, "this experience has forced me to be more organized." Lisa said she felt very comfortable with the students and had few discipline problems. She attributed this to the level of discipline Ellen McKee

maintained in the classroom and to the dedication of students to remain on task in order to be prepared to get their licenses at the end of the school year.

Lisa Bebout, the B/I exchange employee, shared that teaching was difficult for her. She said, "At first, I wanted to do everything myself. But, later I realized that I had to let the students work. Now I help them." Regardless of the difficulty of the job, Lisa was rewarded by the experience. She explained that she had given students a sense of reality regarding work and that she had shown students ways to work faster. When asked whether she would like to be a teacher one day, Lisa indicated she would like to teach at some time in the future.

The exchange experience had a somewhat similar effect on Ellen the exchange teacher from the J.V.S. Even though Ellen was not enthusiastic about Project TRADE at first, by the end of the exchange Ellen had begun to think seriously about returning to cosmotology full-time within a couple of years. Ellen said she had forgotten how much she enjoyed working in a salon. Since back in the salon, Ellen had increased her speed dramatically, according to Judy Gray, the shop owner.

This TRADE experience benefitted the One Better Beauty Salon in ways that were not anticipated when Project TRADE was conceptualized. For example, as a result of having Ellen in the shop along with publicity about Project TRADE, new customers were attracted. Further, in some respects Ellen McKee was more up-to-date regarding hair styles and hair products than the One Better Beauty Salon employees. As a result, Ellen spent some of her time teaching the employees of One Better Beauty Salon how to do new haircuts and hairstyles.

This teacher-employee exchange represented the first TRADE with a small, service sector business. Since Lisa Bebout was paid a salary instead of commission, having Ellen McKee exchange places did not affect the income of Lisa. Of course, in many other small businesses, an exchange could affect the income of the exchange employee. In addition, Donna Johnson found that providing publicity about TRADE for the service business was an extremely important incentive to gain the participation of the business. Donna explained that she had not anticipated in the budget the need for money to buy advertisements in the local newspapers. However, she recommended funds for advertising small service businesses that participate in TRADE in the future. Donna estimated the total cost of this teacher-employee exchange at about $360 total. Most of that money was used for stipends for participants in the inservice and travel.

Pilot Five: Marion Correctional Institute

The Marion Correctional Institution, located in Marion, Ohio, was included as a pilot site during the 1984-1985 school year. This correctional institution was included as a pilot site because of the need to determine whether TRADE could provide technical update for instructors in Ohio's prisons. Project TRADE was pursued enthusiastically by Jim Mayers, Education Director of Marion Correctional Institute. Advisory committee members were contacted to suggest possible B/I sites for TRADE. As a result of these recommendations, some large companies in the Marion area were contacted about Project TRADE.

Jim Mayers, along with other administrators and instructors of Marion Correctional Institute, prepared information and met with these local company executives. Jim explained that a great deal of time and thought

went into preparing for these formal meetings. However, after each meeting and several days of deliberation, each of the companies decided not to participate in TRADE. Each B/I approached about TRADE insisted that the reason the company declined to participate was because of the slow economy in Marion.

Finally, Jim Mayers met informally with an auto dealership owner in Marion. When Jim began talking about TRADE, this small business owner was interested in the project. Jim is still pursuing a teacher-employee exchange with this auto dealership. The dealership owner indicated that problems with staffing levels have prevented the exchange from occurring. However, Jim appears optomistic that the exchange will take place in the near future. He has agreed for Marion Correctional Institute to participate in Project TRADE for another year and to continue to pursue B/I sites to participate in TRADE.

## CHARACTERISTICS OF PROJECT TRADE PARTICIPANTS

The characteristics and attitudes of vocational teachers and B/I employees were examined. In addition, previous involvement with the schools was determined for the businesses and industries that participated in Project TRADE.

## Characteristics of Exchange Teachers and Employees

A total of six vocational education teachers and six B/I employees participated in Project TRADE during the 1984-1985 school year. Each of these individuals completed a mail survey which requested demographic, educational level and employment experiences. The mail survey for both exchange teachers and exchange employees is contained in Appendix B.

The education level of three female and three male exchange teachers was somewhat varied (Table 1). The education level of teachers was clearly related to the vocational service areas in which teachers were working. Four of the teachers had graduated from high school and completed some college coursework. These teachers were employed in the Trade and Industry service areas. The two teachers who had completed a bachelor's degree were employed in home economics and business education. One of these teachers had also received a master's degree. Based on subjective data collected during the evaluation, the education level of teachers appeared not to be related to the success of TRADE.

The teachers selected for TRADE represented home economics, business education, machine trades and cosmotology (Table 2). There appeared to be benefits for teachers participating in Project TRADE regardless of service area.

All of the vocational teachers selected for Project TRADE had at least six years of teaching experience. Four of the teachers had taught between 6 and 15 years. The remaining two teachers had taught between 16 and 25 years. Obviously, all of these teachers had not been employed full-time in non-teaching employment for extended periods for a number of years. The

Table 1

Highest Level of Education Attained
by Exchange Teachers

| Level of Education | Number of Exchange Teachers (N=6) |
|---|---|
| High school graduation plus some college | 4 |
| Bachelor's degree plus some graduate education | 1 |
| Master's degree | 1 |

Table 2

Teaching Experiences
of Exchange Teachers

| Teaching Experiences | Number of Exchange Teachers (N=6) |
|---|---|
| Voc. Ed. Service areas: | |
| Home Economics | 1 |
| Business and office | 1 |
| Machine trades | 3 |
| Cosmotology | 1 |
| Total Years of Teaching Experience: | |
| 6 to 10 years | 2 |
| 11 to 15 years | 2 |
| 16 to 20 years | 1 |
| 21 to 25 years | 1 |

number of years of non-teaching work experience varied depending upon whether or not the teachers were in a T & I field (Table 3). Two teachers had worked in non-teaching occupations between one and five years prior to teaching vocational education. These two teachers were trained in home economics and business education. The remaining four T & I teachers had between 11 and 20 years of non-teaching work experience. Previous teaching-related job titles of these six teachers included nurses aide; personnel clerk and receptionist; tool and diemaker; machinist; hairdresser, and owner and manager of a hair salon.

The level of education completed by exchange employees was usually high school only. The highest educational attainment of one-half of the exchange employees was high school graduation (Table 4). One of the other exchange employees had completed an adult vocational program and been employed as a licensed practical nurse. Another exchange employee had taken courses at a two-year college. Another exchange employee had received a two-year degree. Clearly, however, the level of education did not influence the technical competencies of the exchange employees. It appeared that the employees who had been in school beyond high school were more aware of the characteristics and attitutdes of teenagers in school today.

The number of years in which exchange employees had worked in their respective businesses was varied (Table 5). While two exchange employees had worked five years or less, the remaining four employees had worked between 11 and 30 years. However, all of the exchange employees appeared to be competent in their occupations. The job titles which the six exchange employees held were licensed practical nurse, machine shop supervisor, machine shop foreman, machinist, hairdresser, and secretary.

Table 3

Non-Teaching Work Experience
of Exchange Teachers

| Non-Teaching Work Experience | Number of Exchange Teachers (N=6) |
|---|---|
| 1 to 5 years | 2 |
| 6 to 10 years | 0 |
| 11 to 15 years | 3 |
| 16 to 20 years | 1 |

Table 4

Highest Level of Education Attained
by Exchange Employees

| Level of Education | Number of Exchange Employees (N=6) |
|---|---|
| High school graduation only | 3 |
| High school graduation plus completed adult education program | 1 |
| High school graduation plus some two-year college | 1 |
| Associate degree from two-year college | 1 |

Table 5

Work Experiences
of Exchange Employees

| Work Experiences | Number of Exchange Employees (N=6) |
|---|---|
| Years of Work Experience: | |
| 1 to 5 years | 2 |
| 6 to 10 years | 0 |
| 11 to 15 years | 1 |
| 16 to 20 years | 1 |
| 21 to 25 years | 1 |
| 26 to 30 years | 1 |

The amount of experience exchange employees had teaching in formal or informal settings was insignificant. Three of the employees indicated they had no teaching experience of any kind. One employee had taught as an adult education instructor for about 24 months and as an apprenticeship instructor for about the same length of time. Another exchange employee had taught apprenticeship on a one-to-one basis within the company and had taught church school for three months. One exchange employee had been a scoutmaster for three years. While prior teaching experience did not appear to be necessary, exchange employees who had more extensive teaching experiences appeared to adapt to the classroom setting more quickly. Teaching experience or other experiences with youth may be important qualifications for TRADE in the future.

## Attitudes of Exchange Teachers and Employees

Exchange teachers and employees were asked to complete an attitudinal survey prior to participating in TRADE. The surveys, which are contained in Appendix C, focused upon the attitudes of exchange teachers and exchange employees toward technology, teaching, vocational education and Project TRADE.

The responses of exchange teachers toward technology prior to participating in TRADE were quite varied. Table 6 provides a summary of the way teachers responded to the mail survey. Teachers were evenly split on the first survey item regarding technical skills. One-half of the teachers agreed or strongly agreed with the statement that their technical skills kept pace with advancing technology and one-half disagreed or strongly disagreed with that statement. It is interesting to note that regardless of

whether teachers felt their skills were up-to-date, all but one teacher agreed or strongly agreed with the statement that their knowledge of new technology was limited. These statements appeared to indicate that most of the exchanges needed to have a component which enabled teachers to learn new information about technology. However, only one-half of the teachers appeared to need to develop new skills to use technology.

Interestingly, two teachers disagreed with the statement that they were worried that students in their classes were not learning to use the most up-to-date technology. Based on the responses of these two teachers, it was interesting that these teachers decided to participate in TRADE. Furthermore, it was surprising that three teachers who participated in TRADE agreed with the statement that their curriculum reflected the latest advancements in technology in the field. These findings appeared to suggest that some of the teachers who participated in TRADE did not view themselves as significantly out-of-touch with new technology. Obviously, the impact of TRADE in terms of the technical update of teachers would probably not be as great for teachers who already view themselves as being up-to-date.

The six teachers were asked to indicate their attitude toward Project TRADE (Table 7). The responses of teachers to five of these items were similar. All six teachers indicated that (1) Project TRADE would be a valuable experience, (2) the project would update their technical knowledge and skills, (3) they were not confused about the exchange, (4) the exchange was managed properly, and (5) other school personnel were supportive.

There was some variation in the response of teachers to the statement about being worried about working in B/I. Interestingly, the two teachers who had the fewest years of non-teaching work experience were more worried about working in B/I than other teachers. The majority of teachers were not

Table 6

Attitudes of Exchange
Teachers Toward Technical Up-date Prior
to Participating in Project T.R.A.D.E.

| Statements about Technology | Number of Exchange Teachers (N=6) | | | |
|---|---|---|---|---|
| | Strongly Agree | Agree | Disagree | Strongly Disagree |
| My technical skills have kept pace with advancements in technology | 2 | 1 | 2 | 1 |
| My knowledge of the new technology used in business and industry today is limited | 1 | 4 | 1 | |
| I am worried that the students in my classes are not learning to use the most up-to-date technology | | 4 | 1 | 1 |
| Other teachers in the school consider me to be highly competent teacher | 2 | 4 | | |
| My curriculum reflects the latest advancements in technology in my field | 1 | 2 | 3 | |

Table 7

Attitudes of Exchange Teachers
Toward Project T.R.A.D.E. Prior to
Participating in the Project

| Statements about Project | Number of Exchange Teachers (N=6) | | | |
|---|---|---|---|---|
| | Strongly Agree | Agree | Disagree | Strongly Disagree |
| I think participating in the exchange will be a valuable experience for me | 6 | | | |
| I think particpating in the exchange will update my technical knowledge and skills | 4 | 2 | | |
| I am worried about working in a business or industry | | 2 | 2 | 2 |
| I am confused about the purpose(s)of the exchange | | | 3 | 3 |
| So far, the exchange has not been properly managed | | | 3 | 3 |
| Other school personnel have supported my decision to participate in the exchange | 1 | 5 | | |
| I am worried that the business/ industry employee who will be teaching my classes is not prepared to teach | 1 | 1 | 2 | 2 |

worried about working in B/I. Finally, even though the majority of teachers were not worried about the employee who would be teaching during the exchange, five teachers did indicate some concern. Both of these teachers were employed in the same school and were exchanging positions with employees from the same company.

The exchange employees responded similarly to items on the mail survey regarding teaching and vocational education (Table 8). All of the employees strongly agreed that teaching is a challenging occupation and that co-workers consider the employees to be highly competent. All but one employee disagreed with a statement that vocational teachers have not kept up-to-date with technology, and agreed that vocational graduates are prepared for entry level jobs. Only one employee agreed with the statement that schools do not operate efficiently and, in addition, one other employee did not respond to that statement. These findings generally reflect a positive attitude of employees toward teaching and vocational education prior to the exchange. The positive attitude of most of the employees may be a reflection of the fact that most of the employees had somehow been involved with vocational education in the past.

In general, the employees agreed that the exchange would be a valuable experience for them, that the exchange would improve their supervisory skills and that co-workers were supportive (Table 9). All of the employees disagreed with statements that they were confused about the purpose of the exchange and that the exchange was not properly managed. There were some differences in the way employees responded to statements about their role and the role of teachers in the exchange. While four employees indicated they were worried about teaching in the school, two employees indicated they

Table 8

Attitudes of Exchange Employees
Toward Teaching Prior to Participating
in Project T.R.A.D.E.

| Statements about Teaching | Number of Exchange Employees (N=6) | | | | |
|---|---|---|---|---|---|
| | Strongly Agree | Agree | Disagree | Strongly Disagree | No Response |
| I think teaching is a challenging occupation | 6 | | | | |
| Most vocational teachers have not kept up-to-date with the latest advancements in technology | | | 1 | 5 | |
| Most vocational education graduates are prepared for entry level jobs in the field for which they are trained | | 1 | 4 | 1 | |
| Most public schools do not operate efficiently | | | 1 | 4 | 1 |
| My co-workers consider me to be a highly competent worker | | 3 | 4 | | |

Table 9

Attitudes of Exchange Employees
Toward Project T.R.A.D.E. Prior to Participating
in the Project

| Statements about Project T.R.A.D.E. | Number of Exchange Employees (N=6) | | | |
|---|---|---|---|---|
| | Strongly Agree | Agree | Disagree | Strongly Disagree |
| I think participating in the exchange will be a valuable experience for me | 5 | 1 | | |
| I think participating in the exchange will improve my supervisory skills | 3 | 3 | | |
| I am worried about teaching in a school | 2 | 2 | 2 | |
| I am confused about the purpose(s) of the exchange | | | 4 | 2 |
| So far, the exchange has not been properly managed | | | 3 | 3 |
| My co-workers have supported my decision to participate in the exchange | 1 | 5 | | |
| I am worried that the teacher who is exchanging jobs with me is not prepared to work in business and industry | | 2 | 2 | 2 |

were not worried. Furthermore, two employees indicated they were worried about teachers working in their B/I jobs.

These findings indicated that employees had many concerns about the exchanges before they began the actual exchange. Some of the open-ended comments of employees indicated the concern employees had regarding what was expected of them during the exchange. However, the overall comments of employees indicated that they had a clear understanding of TRADE and that they felt positively about participating.

## Characteristics of Businesses and Industries

Many of the businesses and industries selected for Project TRADE had been involved with vocational education programs before the establishment of Project TRADE. Table 10 reveals that all but one of the businesses or industries that participated in TRADE had been involved in more than one way. In fact, of all the B/I sites, only Mosler, Inc. had not hired secondary vocational graduates or did not have employees who had served on advisory committees. Mosler had only recently had employees who participated in adult education classes, but otherwise, had not been extensively involved with vocational education. At least two of the B/I sites had provided work stations and hosted field trips.

## THE IMPACT OF PROJECT TRADE

The exchange teachers were interviewed by telephone to assess their opinion of the Project TRADE exchange (Appendix D). Exchange employees, B/I administrators and school administrators were also asked their assessment of

Table 10

Previous Involvement of Businesses and Industries

| Previous Involvement | Owens Corning | Licking Memorial | Delco-Moraine | Mosler | Beauty Salon |
|---|---|---|---|---|---|
| Company provided Work Stations | | x | x | | |
| Company hired Secondary Voc. Education Graduates | x | x | x | | x |
| Company hosted Field Trips | | x | x | | |
| Employees Served on Advisory Committees | x | x | x | | x |
| Employees provided Consultation about Equipment | x | | | | |
| Employees participated in or taught Adult Classes | x | | | x | |
| Company signed Partnership Agreement with School | | | x | | |

the impact of Project TRADE. Since the local projects had been implemented only recently, most of the benefits were anticipated to occur at some time in the future. This future summative or impact evaluation should be made at least one year after Project Trade exchanges take place.

The sample size for this data collection effort was very small. A total of 24 persons were personally interviewed. These were the persons who participated in some manner in TRADE at the pilot sites. Since the sample size was small, the benefits and problems which were identified in this report were sometimes representative of only one person or one project site rather than all participants at all project sites. For this reason, all of the benefits and problems which were identified by participants in Project TRADE through personal interviews have been reported.

## Impact of TRADE on Teachers

1. Teachers learned about technical equipment and processes.
2. Teachers felt more confident about teaching new technology and processes.
3. Teachers felt more confident about their own teaching skills, in general, because they had to show the exchange employee how to teach.
4. Teachers were more determined to keep their technical skills up-to-date.
5. Teachers were able to attend conferences, workshops, etc. that they could not have attended when teaching.
6. Teachers could more effectively evaluate textbooks.
7. Teachers set new priorities for classroom and laboratory instruction.
8. Teachers appreciated their own work more when they saw (a) the difficulty exchange teachers had teaching and (b) graduates of their programs succeeding in training-related occupations.

9. Teachers felt "refreshed" by the experiences and were more enthusiastic about teaching.

10. Teachers were able to practice and improve traditional occupational skills.

11. Teachers were able to meet new people employed in their occupation or support occupations, and plan to involve these individuals in school activities.

12. Teachers could get an overview of the total operation of a B/I and then assess to what degree their course of study needed to be updated.

## Impact of TRADE on Students

Even though students were not interviewed about the benefits of Project TRADE, participants in TRADE who were interviewed described what they perceived to be the benefits of the project for students. The following benefits were identified for students.

1. Students learned about new technical equipment and processes that they would not have learned about otherwise.

2. Students became more aware of new technical equipment and processes.

3. Students probably became more appreciative of the world of work by learning about the work experiences of exchange employees.

4. Students learned occupational skills they would not have learned otherwise because teachers set new priorities for classroom and/or laboratory instruction. For example, students learned how to do a job faster and safer.

5. Students learned more about the "real" world of work through exchange employees.

6. Students probably gained more confidence in the occupational skills of their teachers because teachers were working in the "real" world of work.

7. Students may have gained increased chances for job placement in participating B/I sites.

8. Students were able to visit the participating B/I which they would not have been able to visit otherwise.

## Benefits of TRADE for B/I Exchange Employees

1. Employees had an opportunity to practice supervising others.

2. Employees probably appreciated their own work more because of the interest shown by students and exchange teachers.

3. Employees gained more respect for teaching.

4. Employees reviewed fundamental concepts or "the basics" so they could teach. Employees commented that the information would help them with their regular jobs.

5. Employees who were interested in teaching as a career in the future, had a chance to determine whether they would like to be a teacher.

6. Employees, who were supervisors in B/I had an opportunity to practice supervising youth rather than older workers more typically found in the labor force.

7. Employees may have improved their chances for promotion.

8. Employees were more organized when teaching than they were in their regular jobs.

## Benefits of TRADE for B/I

1. The B/I had input into the course of study which may in the long run, produce a better graduate.

2. The B/I gained more visibility in the community. The publicity about the service the B/I provided for the project may improve the image of the B/I in the community.

3. The B/I may have benefitted from the educational expertise of the teacher while on site, especially in regard to training.

4. The B/I, through the exchange employee, had an opportunity to survey the skills of students who may have sought employment with that B/I. The B/I may be better able to recruit talented students or more selectively hire students.

5. The exchange experience provided an opportunity to reward employees.

6. Other B/I employees may learn from the exchange teacher while on site. In some cases, exchange teachers were more up-to-date than employees in B/I sites.

## Benefits of TRADE for Schools

Most of the benefits to schools were recognized through benefits to teachers, students and curriculum. However, a few other benefits were identified for schools.

1. Project TRADE created interest among vocational teachers to continue professional development. Some teachers were interested in participating in TRADE in the future while other teachers were considering other professional development activities.

2. Project TRADE provided visibility for particular vocational service areas in schools. The project may have improved the image of some vocational service areas.

3. The project has given pilot sites visibility in the state.

4. The project has enabled persons who acted as local project directors to improve administrative skills and increase contacts with B/I.

5. The project may improve job placement rates of graduates in the future.

## Implementation Problems with Project TRADE

As stated previously, most of the problems identified by participants in Project TRADE were in regard to implementation. None of the participants indicated that problems were severe or that the project should be discontinued because of problems. In most cases, participants made suggestions regarding ways to alleviate the problems in the future.

1. Exchange employees had difficulty maintaining control of students in the classrooms. In some cases, employees were not satisfied with the methods of discipline they were shown or school policies regarding handling unruly students. The supervision of exchange employees was not sufficient.

2. Exchange employees were up-to-date with the latest technology but had forgotten the basic, fundamental concepts taught at the secondary level.

3. Some exchange employees did not know how to give a lecture or how to write lesson plans, even after participating in preservice sessions. Most employees did not feel confident about their teaching responsibilities, even after preservice.

4. Exchange employees were dissatisfied with the amount of free time teaching consumed. The employees were discontent with having to spend evenings and weekends studying, grading or preparing to teach.

5. The training activity list was not appropriate for all of the teacher-employee exchanges. The way the task statements were written was confusing to teachers. Some teachers thought more detail was needed. A copy of the training activity test is contained in Appendix E.

6. Teachers who assumed the job responsibilities of exchange employees, (rather than only observing) were not comfortable stepping into the work positions of exchange employees. These teachers were overwhelmed by the responsibilities of the B/I exchange employees' jobs.

7. Teachers sometimes continued grading, writing lesson plans, planning lessons, etc. while the exchange was taking place. These teachers were overworked during the exchange.

8. Because unions were located in some of the B/I sites, some teachers spent the majority of their time during the exchange observing rather than receiving "hands-on" experiences with new technology. Teachers whose exchange took place in a unionized B/I estimated, on average, they spent about 70 percent of their time observing and 30 percent of their time with "hands-on" experiences. In contrast, teachers who did not work in a union B/I indicated 88 percent of their time was "hands-on" and only 12 percent of time was observing. However, teachers who spent almost all of their time with "hands-on" activities indicated that some of their time was spent carrying out mundane tasks. During these times, the exchange was not a learning experience.

9. Teachers did not think Project TRADE should be conducted near the end of the school year.

10. Local project directors had difficulty getting businesses and industries to participate in Project TRADE.

## SUMMARY, CONCLUSIONS

### Project Summary

Project TRADE was conducted during the 1984-1985 school year in the Licking County JVS, Coshocton County JVS, Butler County JVS, Patterson Cooperative High School in Dayton and the Marion Correctional Institute. Five goals were identified for Project TRADE; these were; (1) update the technical skills of teachers, (2) update the curriculum, (3) give the school and vocational education program more visibility, (4) cultivate closer relationships between the school and businesses and industries, and (5) provide opportunities for B/I input into the vocational education program.

Each of the local project directors obtained Title II funds from the State Division of Vocational Education to carry out the projects. The cost of TRADE ranged from about $100 to $1200 depending upon the number of exchanges conducted and whether exchange employees were paid as substitute teachers. In any case, the project was relatively inexpensive.

Each of the pilot sites set out to conduct two teacher-employee exchanges. Unfortunately, two of the pilot sites conducted only one teacher-employee exchange and one pilot site conducted none. In cases where two exchanges could not be arranged, local project directors indicated businesses and industries were not willing to participate in Project TRADE, given the present guidelines. These local directors indicated, however, that B/I managers were enthusiastic about allowing teachers to come into the B/I setting even when they would not release employees to teach. This response prompted some local project directors to recommend that one-way training experiences could be conducted with businesses, where teacher-employee exchanges were unacceptable.

Most of the teachers who participated in Project TRADE volunteered. The teachers who were selected represented T&I, home economics and business education. All of the teachers had taught between six years and 25 years. Most of the teachers had over ten years of full-time, non-teaching work experience in an occupation related to their teaching area. All of the teachers were viewed as extremely competent and able to present a positive image for the school.

In most cases, advisory committee members were consulted about the selection of businesses and industries for Project TRADE. These individuals recommended contacts that generally proved to be fruitful. In most cases, the B/I that participated in Project TRADE had somehow been involved with vocational education programs. Clearly, these businesses and industries had already realized benefits from cooperating with vocational education and viewed Project TRADE as an opportunity to strengthen those ties.

Selection of B/I employees to participate in TRADE was generally conducted by the managers of the participating companies. It appeared as though local project directors had little input into the selection of exchange employees. In most cases B/I employees had little choice as to whether they would participate in TRADE after being selected. However, having no choice about participating in TRADE did not appear to affect the success of the project. Most of the B/I exchange employees did not have teaching experience; however, teaching experience appeared to be helpful for exchange employees.

One feature of TRADE which proved to be very helpful for exchange employees was preservice teacher education preparation. Each of the pilot sites was required to conduct preservice training for the exchange employees. The amount of time devoted to preservice training ranged from

eight hours to 24 hours. Providing time for exchange employees to observe exchange teachers in their own classrooms was also very important. In most cases, the exchange employees recommended that they needed more preservice and observation time to be able to teach and discipline students.

The exchange experiences of all of the vocational education teachers did involve observation and/or "hands-on" experience with new technological processes and equipment. The extent to which "hands-on" experiences occurred, appeared to be directly related to the presence of unions in the cooperating businesses and industries. Usually, but not always, vocational education teachers were less informed about new technology than B/I employees. The exchange gave teachers an opportunity to begin to remedy that situation. In a few instances, the teaching skills of vocational education teachers were utilized by B/I to recommend changes in internal training programs. All of these teacher-employee exchanges were conducted approximately six weeks. This seemed to be an appropriate amount of time for such an exchange.

## Conclusions About Project TRADE

Although only a few schools have participated in the recent Project TRADE activity, some conclusions can be drawn. An initial goal of the project was to update the technical knowledge of teachers and to give schools, businesses and industries more visibility in the community. That goal certainly appears to have been met. However, preliminary evidence has suggested that update of the vocational curriculum following Project TRADE exchanges will take time and a great deal of effort from teachers. Some teachers said they did not know curriculum update was a goal of Project

TRADE and others said they couldn't update their curriculum without expert assistance. Finally, the question of whether Project TRADE will bring about closer relationships between schools, businesses and industries will need to be answered after more time has passed.

In all cases, local project directors dealt appropriately with businesses and industries and were in tune with the needs and interests of exchange employees and teachers. Certainly, the assistance provided by Brenda Hollensen was valuable to local project directors as well. It is important to acknowledge the value of the effective administration of Project TRADE at the local sites. Without that expertise the projects would not have been as successful.

Teachers, from any vocational education service area would appear to benefit from the Project TRADE experience. This evaluation did not detect significant differences in benefits related to vocational service areas. More importantly, it appeared that having an interest in the project and agreeing to participate were important factors contributing to the success of Project TRADE in the pilot sites.

Finally, businesses and industries that participated in Project TRADE were highly involved with the local vocational education programs. Companies that previously cooperated in various ways with schools appeared to be more interested in participating in the project than companies that had not been involved with education. Also, having unions in companies did not appear to prohibit participation in TRADE. However, the unions did influence the nature of the exchange experience for exchange teachers. More specifically when unions were present in the businesses and industries, the majority of the exchange teacher's time was spent observing rather than receiving "hands-on" experiences.

Clearly, selection and training of B/I employees are vital components of Project TRADE. It appeared that having genuine agreement of B/I employees to participate in Project TRADE was necessary. When B/I employees had previously taught or worked with youth, their exchange experience appeared to be more satisfactory. Even though preservice training was provided for exchange employees, almost all indicated more time should be devoted to dealing with student discipline. Whether coincidental or not exchange employees who had more time in preservice for TRADE, had previously worked with youth or taught, appeared to be more satisfied with their exchange experiences.

In summary, the exchange of vocational teachers with their counterparts in business and industry can generate many benefits; both educational and public relations benefits. Furthermore, these benefits can be generated with a very modest financial outlay. The key elements for success of the enterprise seem to be (a) the availability of a modest amount of "seed money" to cover incidental costs of the exchange agreement, and (b) the presence of competent and dedicated administrators to arrange and supervise the exchange agreements.

The summative or long-range impact of Project TRADE and similar exchange agreements can only be assessed in the years ahead.

# APPENDIX A

## INTERVIEW QUESTIONS FOR B/I PROJECT DIRECTOR OR SUPERVISOR

### Setting Up The Exchange

1. Why did the B/I agree to participate? What interested you about the project?

2. How have you worked with this school in the past?

3. What was the process within you company to get the approval for this project? What levels of management were involved?

### Employee Selection

1. How was the employee selected?

2. How did the employee feel about the project at the beginning? now? What problems has the exchange teacher shared with you?

3. How have co-workers felt about the project?

4. How have you involved unions?

### Supervision

1. Who is supervising the exchange teacher?

2. How would (the supervisor) you assess the amount of learning/skills the exchange teacher has acquired?

### Exchange Teacher Experience

1. What types of experiences is the exchange teacher getting at your B/I?

### Recommendations

1. How might the project have been handled differently that might have served the B/I better?

   (a) time dates

   (b) training agreements/task lists

   (c) goals/plans for the project

   (d) evaluation

Possible Benefits

1. How do you think the experience with technology in the B/I will contribute to up-date of teachers?

2. What other experiences will (has) the teacher gain (ed) which will be beneficial?

3. How do you think participating in the exchange may benefit the B/I employee?

4. How do you think participating in the exchange may benefit the company in the short term? In the long term?

Possible Disbenefits

1. What are they?

Other Questions

1. What do you see as unique characteristics of the B/I, community, school or individuals that have contributed to the ease/difficulty of establishing exchange?

2. Would the company participate again? What would be your concerns?

BUSINESS/INDUSTRY PROFILE

1. Name of B/I _____

2. Product(s) or Service(s) of B/I. _____

_____

3. Primary technical job(s) performed in B/I by Exchange teacher(s) _____

_____

4. Technical process/equipment in B/I _____

_____

5. Total number of employees _____

6. Union(s) in B/I _____

7. Distance between school and B/I _____

INVOLVEMENT WITH SCHOOLS (Check appropriate items and indicate in blank the extent of involvement.)

Extent of Involvement

_____Provide Cooperative work stations _____

_____Provide part-time jobs for V. ed. students _____

_____Provide jobs for V. ed. graduates _____

_____Host field trips _____

_____B/I employee(s) on advisory committees _____

_____Provide equipment loans or donations _____

_____Provide consultation about equipment _____

_____Provide consultation about curriculm _____

_____Others _____

_____

_____

_____

_____

Provide Additional B/I Information on Back.

## INTERVIEW QUESTIONS FOR SCHOOL PROJECT DIRECTOR:

### Administration

1. How has the superintendent been involved?
2. How has the school board been involved?
3. How have advisory committees been involved?
4. How has the project been funded?
5. How much time have you spent working on the project? (a) When did you begin finding an exchange site? (b) How much time to find site? supervise exchange employee, etc.?

### Teacher Selection

1. How was the exchange teacher selected?
2. Describe the teacher's initial attitudes toward technology and technical up-date, technical knowledge and skills.
3. Were teachers in the school interested? How many applied? How have the exchange teachers been received by other teachers in the school?

### B/I Selection

1. How was the B/I selected?
2. How was the exchange employee selected?
3. What previous links were there between the school and B/I?
4. What future involvement do you see?

### Preservice Training

1. Was it conducted? If not, why not?

If yes,

2. Who conducted the preservice training?
3. How long did the training last?
4. What was the content?
5. When was it conducted?
6. Who participated?
7. Was there a plan? agenda?

Task list(s)

1. Was a task list developed? If no, why not?
2. Then, what were the objects of the exchange?

If yes,
3. How were tasks identified?
4. What tasks were identified?
5. Who was involved in identifying tasks?
6. How was the task list used by B/I? Were they satisfied with the task list or interested in more structure in a training agreement?

Exchange

1. What are the dates for the exchange?
2. How will experience with technology in B/I contribute to update of teachers?
3. What other experiences will the exchange teachers get that will be valuable?
4. Were there weekly update meetings? If yes, what contribution did these meetings make?
5. Were there observation exchanges? If yes, what contribution did these observations make?
6. What will happen when the teacher comes back to the school with what he/she has learned? Is there a plan?

Other Questions

1. What are unique characteristics of the B/I community, school or individuals that have contributed to the ease/difficulty of establishing an exchange with business/industry?
2. Are there other important factors which have influenced the way the exchange has occurred?

Teacher Education & State Involvement

1. At this point, the project is very much under your control as a local project director; Would you want to see increased involvement from the university teacher education departments? or the state department of education? How should they be involved?

Recommendations for Future Projects

1. What recommendations do you have for improving the project in the future?

## INTERVIEW QUESTIONS FOR EXCHANGE TEACHER.

### Context

1. What factors can you identify about the community, school, school personnel, etc. that have made this exchange operate smoothly/with difficulty?

2. Are other teachers supportive of the project?

3. Were students and their parents supportive of the project?

4. Are there other important people who have affected the project in any way?

### Characteristics of Exchange

1. How many years have you taught vocational education?

2. What strategies have you used in the past to remain technically up-to-date?
   (Eg. coursework, attend conferences, join professional organizations, read journals, work, etc.)

3. Why do you think remaining technically up-to-date is important for vocational teachers?

### Teacher Selection

1. How were you selected?

   If volunteered,

2. What attracted you to the project?

3. In what ways do you think you <u>may</u> benefit by participating in the project?

### Business/Industry

1. Was an orientation provided by the B/I when you began the exchange?

2. How have you been treated by B/I co-workers?

3. Describe the relationship you have with you B/I supervisor.

4. Describe your work.

5. Describe the type of technology you have used in this B/I?

6. Was the B/I site the most beneficial exhange for you? Why yes or no?

Preservice Training (If conducted)

1. Were you involved?
2. Describe the training.
3. Describe how the training was beneficial for the exchange employee.

(If not conducted)

4. In what ways could preservice training have benefitted the exchange employee?

Task List(s) (If developed)

1. How were tasks identified?
2. How has the training agreement been used?
3. What has the training agreement contributed?

(If not developed)

4. What contribution could a training agreement have made?

## INTERVIEW QUESTIONS FOR EXCHANGE EMPLOYEE

### Introduction

1. How have things been going for?
2. What problems/successes have you had?
3. Have you felt confident about your role in the project? In the beginning? How?

### Characteristics of Exchange Employee

1. Have you had much contact with vocational education in the schools in the past? If yes, what has been your impression of vocational education programs?
2. What have you thought of the quality of the local school system? Have you changed your mind?
3. What is your job/position in the B/I?
4. What major responsibilities do you have in your B/I job?
5. What do you think you have brought to the vocational education students that they may not have had an opportunity to get had you not participated in the exchange?

### Employee Selection

1. How were you selected?
2. (If volunteered) What interested you about the project in the beginning?

### Preservice Training (If conducted)

1. Who conducted the preservice training?
2. What was the content?
3. What did you learn?
4. Was the training well planned? Was there an agenda?
5. How did you benefit from preservice training?
6. What recommendations do you have for improving the preservice?

Exchange

1. To what extent have you developed lesson plans, tests, homework assignments on your own? Have other teachers or the exchange teacher helped you? What problems have you had?

2. What kinds of experience have you had with students? Discipline problems?

3. How have you been treated by other teachers? Can you identify a few teachers/administrators who have been extremely helpful?

4. Have you met periodically with the exchange teacher? Has that been helpful?

Possible Benefits

1. In what ways do you think you may benefit by participating in the project?

2. How do you see your company benefitting?

3. Who do you think will benefit most from the project?

Recommendations

1. How do you think the project should be conducted in the future?

2. What would have made the exchange a better experience for you?

# APPENDIX B

EXCHANGE EMPLOYEE PROFILE

Name_____ Home Phone(  )_____

Business or Industry_____ Business Phone(  )_____

EDUCATIONAL BACKGROUND Enter all educational levels you have completed.

| Educational Level | Year Completed | School | Major |
|---|---|---|---|
| High School/GED | | | |
| Vocational Cert. | | | |
| Associate's Degree | | | |
| Bachelor's Degree | | | |
| Other: | | | |

WORK EXPERIENCE Enter up to five of your most recent work experiences. Begin the list with your current employer.

| Business/Industry | Dates of Employment | | Job Title |
|---|---|---|---|
| | From Mo/Yr | To Mo/Yr | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

TEACHING EXPERIENCE Describe any teaching or training you have done in business, schools, churches, clubs etc. Indicate NONE if you do not have any teaching experience.

_____

_____

_____

_____

EXCHANGE TEACHER PROFILE

Name_____ Home Phone ( )_____

School_____ School Phone ( )_____

EDUCATIONAL BACKGROUND Enter all educational levels you have completed.

| Educational Level | Year Completed | School | Major |
|---|---|---|---|
| High School/GED | | | |
| Vocational Cert. | | | |
| Associate's Degree | | | |
| Bachelor's Degree | | | |
| Master's Degree | | | |
| Other: | | | |

TEACHING EXPERIENCE Enter all public, private, armed forces, etc. teaching experience(s). Begin the list with your current employer.

| School | City/State | Dates of Employment | | Subject(s) Taught |
|---|---|---|---|---|
| | | From Mo/Yr | To Mo/Yr | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

WORK EXPERIENCE Enter all work experiences which relate to your vocational education area. Begin the list with your most recent non-teaching employer.

| Business/Industry | Dates of Employment | | Job Title | Avg. hours per week |
|---|---|---|---|---|
| | From Mo/Yr | To Mo/Yr | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

# APPENDIX C

## EXCHANGE EMPLOYEE SURVEY

A. Today's Date _____

B. What were your reasons for participating in the exchange?

_____

_____

_____

_____

C. Please indicate the degree to which you agree with the following statements regarding schools and Project T.R.A.D.E. (Circle the best response.)

| | Strongly Agree | Agree | Disagree | Strongly Disagree |
|---|---|---|---|---|
| 1. I think teaching is a challenging occupation..... | SA | A | D | SD |
| 2. Most vocational teachers have not kept up-to-date with the latest advancements in technology..... | SA | A | D | SD |
| 3. Most vocational education graduates are prepared for entry level jobs in the field for which they are trained..... | SA | A | D | SD |
| 4. Most public schools do not operate efficiently..... | SA | A | D | SD |
| 5. My co-workers consider me to be a highly competent worker..... | SA | A | D | SD |
| 6. I think participating in the exchange will be a valuable experience for me..... | SA | A | D | SD |
| 7. I think participating in the exchange will improve my supervisory skills..... | SA | A | D | SD |
| 8. I am worried about teaching in a school.... | SA | A | D | SD |
| 9. I am confused about the purpose(s) of the exchange..... | SA | A | D | SD |
| 10. So far, the exchange has not been properly managed..... | SA | A | D | SD |
| 11. My co-workers have supported my decision to participate in the exchange..... | SA | A | D | SD |
| 12. I am worried that the teacher who is exchanging jobs with me is not prepared to work in business and industry..... | SA | A | D | SD |

PLEASE USE THE BACK OF THIS SHEET TO MAKE COMMENTS ABOUT THE PROJECT.

## EXCHANGE TEACHER SURVEY

A. Today's Date _____

B. What were your reasons for participating in the exchange?

_____

_____

_____

_____

C. Please indicate the degree to which you agree with the following statements regarding technology and Project T.R.A.D.E. (Circle the best response.)

| | Strongly Agree | Agree | Disagree | Strongly Disagree |
|---|---|---|---|---|
| 1. My technical skills have kept pace with advancements in technology..... | SA | A | D | SD |
| 2. My knowledge of the new technology used in business and industry today is limited.... | SA | A | D | SD |
| 3. I am worried that the students in my classes are not learning to use the most up-to-date technology..... | SA | A | D | SD |
| 4. Other teachers in the school consider me to be a highly competent teacher..... | SA | A | D | SD |
| 5. My curriculum reflects the latest advancements in technology in my field.... | SA | A | D | SD |
| 6. I think participating in the exchange will be a valuable experience for me..... | SA | A | D | SD |
| 7. I think participating in the exchange will update my technical knowledge and skills.. | SA | A | D | SD |
| 8. I am worried about working in a business or industry..... | SA | A | D | SD |
| 9. I am confused about the purpose(s) of the exchange..... | SA | A | D | SD |
| 10. So far, the exchange has not been properly managed..... | SA | A | D | SD |
| 11. Other school personnel have supported my decision to participate in the exchange... | SA | A | D | SD |
| 12. I am worried that the business/industry employee who will be teaching my classes is not prepared to teach..... | SA | A | D | SD |

PLEASE USE THE BACK OF THIS SHEET TO MAKE COMMENTS ABOUT THE PROJECT.

# APPENDIX D

PROJECT T.R.A.D.E.
TEACHER INTERVIEW SCHEDULE

All respond to these questions.

1.a. To what extent did participating in project T.R.A.D.E. as an exchange teacher meet your expectations?

____To a great extent
____To a fair extent
____To a slight extent
____Not at all
____Other

b. What made the exchange a valuable experience for you?

c. What was the least valuable experience during the project?

2.a. When you think back to your exchange experience, would you say you learned more than you expected, less than you expected or about the amount you expected in regard to.....

| | EXTENT OF LEARNING | | |
|---|---|---|---|
| | Expected More | Expected Less | Other |
| New Technical Equipment | M | L | O |
| New Technical Processes | M | L | O |

Developed by D. Bragg for Project T.R.A.D.E., April, 1985.

b. Describe what you learned about new technical equipment?

c. Describe what you learned about new technical processes.

3.a. During your exchange experience, about what proportion of time did you get hands-on experience (with clients, in production, etc.) in the B/I and what proportion of time were you observing?

b. How do you feel about that? Did you benefit from hands-on and/or observation?

4.a. Do you feel more confident to <u>teach about</u> new technology now than before you participated in the exchange? Why?

b. Do you feel more confident to <u>use</u> new technical equipment now than before the exchange? Why?

5 a. When you think to the future, do you think this experience has made you more determined to keep your technical knowledge and skills up-to-date?

b. Have you made any plans for doing that? If yes, what are your plans?

Ask these questions only when new knowledge and/or skills were acquired.

6. Even though you only recently completed your exchange,

a. have you used the ideas and/or skills that you gained during the exchange in your teaching?

b. If no, why not? When do you plan to use the ideas or skills?

c. If yes, to what extent have you used the ideas or skills

| | Extent of Use | | | | |
|---|---|---|---|---|---|
| | Great | Fair | Slight | None | Other |
| instruction of your students? | G | F | S | N | O |
| to recommend changes in basic instruction(beyond voc. ed) for students? | G | F | S | N | O |
| to revise your curriculum or develop new curriculum? | G | F | S | N | O |
| to recommend laboratory/equipment changes? | G | F | S | N | O |
| to increase the involvement of B/I? | G | F | S | N | O |
| to improve resources (books..) used in class? | G | F | S | N | O |
| other _____ | G | F | S | N | O |

7. Specifically, what will students learn now that they would not have learned had you not participated in the exchange?

8. Have you shared information about your exchange experience with other vocational teachers in your school? What was their reaction?

9.a. As a result of participating in Project T.R.A.D.E., how do you think students will benefit from this project?

All respond to these questions.

Because of your familiarity with the project, I'd like to get your ideas about how we could improve a number of different aspects of project T.R.A.D.E.

10. Do you have any suggestions for improving:

a. the way teachers are selected?

b. the preservice and/or inservice component?

c. the way B/I's are selected?

d. the way the B/I employee is selected?

e. the way either the teacher or B/I employee is supervised?

f. the way the training agreement (task list) is developed?

g. the length of the exchange or time of year for the exchange?

h. the way the exchange is managed or evaluated?

i. the follow-up of exchange participants after they completed the exchange experience?

j. what happens with the new ideas and skills acquired by the teacher once they are back in school?

I thank you for talking with me today, do you have any other questions or comments about the project?

# APPENDIX E

PROPOSED TRAINING ACTIVITY LIST

DATE_____

Exchange Teacher _____

Educational Institution _____

Educational Supervisor of School Site _____

Proposed dates for the exchange _____ to _____

| Activity and/or Equipment | Action Verb(s) | Comments |
|---|---|---|
| 1. | | |
| 2. | | |
| 3. | | |
| 4. | | |
| 5. | | |
| 6. | | |
| 7. | | |
| 8. | | |
| 9. | | |
| 10. | | |
| 11. | | |
| 12. | | |
| 13. | | |
| 14. | | |
| 15. | | |
| 16. | | |
| 17. | | |
| 18. | | |
| 19. | | |
| 20. | | |